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MARKER HOLDING ASSEMBLY

BACKGROUND OF THE INVENTION

[0001] The present invention relates to an assembly or case for holding markers. A case of this type is known, for example, from U.S. Patent No. 5,163,549. This patent discloses a caddy having openings for accepting the caps of marking pens. The caddy has a body of flexible plastic material with an upper surface and a lower surface that are substantially parallel to one another. A plurality of sockets extend from the upper surface in the direction of the lower surface and are shaped to retain a cap of a marker. The caps are arranged in sockets and extend from the upper supporting surface to the lower supporting surface of the body. The cap is held in the socket of the body by either being formed integrally with the body or is held by a flange at the upper surface of the body.

SUMMARY OF THE INVENTION

[0002] It is an object of the present invention to improve upon the prior art and to provide a marker holding assembly in which the markers are held substantially entirely within the holder and are easily removable and reinsertable for use and storage.

[0003] Pursuant to this object, and others which will become apparent hereafter, one aspect of the present invention resides in a marker holding assembly having a housing with an open top, four side walls and a bottom wall. A tray is mounted within the housing so as to be at a distance from the bottom wall thereof. The tray is provided with a plurality of openings into each of which a cap of a marker is secured by a snap fit.

[0004] In another embodiment of the invention, the marker holding assembly has a cover hinged to an upper edge of one of the side walls of the housing so that the cover is movable between a closed position in which the cover closes the open top of the housing and an open position in which there is free access to the open top. A detent is arranged on an inner surface of the cover and an outer surface of the housing so that when the cover is in the closed position, the detents engage to hold the cover in the closed position. The detents can be disengaged by applying a slight force to permit opening of the cover.

[0005] In still another embodiment of the invention, the inner top surface of the cover is provided with a ridge member that is arranged to make contact with a back end of the marker in the housing when the cover is in the closed position.

[0006] Yet another embodiment of the invention provides vertical braces on inner surfaces of the side walls. The braces extend along only a portion of the side walls and have an upper end arranged to support a laterally extending surface of the tray. The tray has a vertical wall extending from the lateral surface up to a top edge of the tray. A lip is arranged on the inner surface of two of the side walls of the housing at a distance from an upper end of the braces so that the vertical wall of the tray is held between the lips and the upper edge of the braces.

[0007] Each of the markers has a front end with a nib, and a rear end. A cap is removably mounted to the front end of the marker so as to cover the nib. The openings in the tray are configured to fixedly hold the cap with a snap fit when the marker is initially inserted into the housing. Due to the snap fit, the cap remains in the housing when the marker is later removed. The marker can then be reinserted into the housing for storage at a later time.

[0008] In a preferred embodiment, the side walls of the housing have a length shorter than the length of the markers so that the markers can be easily grasped near their rear end for removal from the housing.

[0009] The housing is preferably made of a plastic material and the braces and lips which support and hold the tray are integrally formed with the side walls of the housing.

[0010] Other features and advantages of the present invention will become apparent from the following description of the invention which refers to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIGURE 1 is a perspective view of the inventive marker holding assembly;

[0012] FIGURE 2 shows the marker holding assembly of Figure 1 in an open state;

[0013] FIGURE 3 is a top view of the holding assembly shown in Figure 2;

[0014] FIGURE 4 is a section along the line A-A in Figure 3;

[0015] FIGURE 5 is a section along the line B-B in Figure 3;

[0016] FIGURE 6 is a top view of the tray for holding the markers within the holding assembly;

[0017] FIGURE 7 is a side view of Figure 6;

[0018] FIGURE 8 is an end view of Figure 6;

[0019] FIGURE 9 shows the markers being inserted in the tray of Figure 6; and

[0020] FIGURE 10 is a sectional view of the marker holding assembly with the markers arranged therein.

DETAILED DESCRIPTION OF THE INVENTION

[0021] Figures 1 and 2 show the inventive marker holding assembly. The holding assembly has a housing 2 with four side walls, a top and an open bottom. A cover 3 is hinged at a back edge to the housing 2 so that the cover can open and close. The cover has a portion 3a that overlaps the outer surface of the housing 2 when the cover is closed on the housing. The cover 3 is held in the closed position by a latch formed by a detent structure 4a, 4b whereby the element 4a engages the element 4b, when the cover 3 is closed against the housing 2. For opening the cover 3, all that is required is a minimal force to disengage the elements 4a, 4b.

[0022] As seen in Figure 3, the housing 2 on its inner surface has a number of pairs of braces 5 arranged on the inner back and front wall so as to extend vertically along a portion of the inner wall surfaces. The braces on the front wall are arranged directly opposite to corresponding braces on the back wall. A further vertical brace 6 is provided on the inner surface of each of the side walls of the housing 2, as shown in Figure 4. Each side wall also has a lip 7 at a distance from the brace 6, that extends horizontally across at least a portion of the side wall between the front and back walls of the housing. The distance between the lips 7 and the braces 6 corresponds essentially to the length of the upper sidewall 14 of the tray 8. The sidewall 14 fits and is securely held between the lips and the braces. The cross-section of the housing in Figure 5 shows the braces 5, 6 and the lips 7 more clearly. The housing is preferably a plastic part and the braces 5, 6 and the lips 7 are molded integrally therewith.

[0023] Figures 6-8 show the tray 8 for the markers. The tray is configured to fit within the housing 2 and rests on the braces 5, 6 so that a bottom of the tray 8 is at a distance above the bottom wall of the housing 2. The tray 8 is held in place by engaging under the lips 7 when the tray 8 rests on the braces 5, 6. The tray 8 rests on

the guides with a ledge region 9. The tray 8 has a number of openings 10 corresponding to the number of markers desired to be stored in the housing.

[0024] As shown in Figure 9, each marker 11 has a cap 12. The openings 10 in the tray 8 are configured to hold the cap 12 so that when a marker 11 with the cap 12 mounted thereon is initially inserted into the housing the cap 12 engages in one of the openings 10 with a snap fit and remains in place in the tray 8 when the marker is later removed. This is shown in Figure 9, wherein the marker to the right in the Figure has the cap 12 attached to the tray 8. After the marker has been used it is once again snapped back into the cap 12 for storage.

[0025] Figure 10 shows a section through the holding assembly with the markers mounted therein. As can be seen in this Figure, the tray 8 is arranged above the bottom wall of the housing 2 so that there is sufficient space for the cap 12 to extend down toward the bottom wall. The cover 3 has, in the closed position, a downwardly projecting inner surface with a projection or ridge 13 that contacts the back end of the markers once they are in the housing 2 and helps to secure the markers in place when the cover 3 is closed.

[0026] Although the present invention has been described in relation to particular embodiments thereof, many other variations and modifications and other uses will become apparent to those skilled in the art. It is preferred, therefore, that the present invention be limited not by the specific disclosure herein, but only by the appended claims.